

6. a) Evaluate. Record your work.

i) $4^2 + 4^3$ ii) $5^3 + 5^6$

b) Evaluate. Record your work.

i) $6^3 - 6^2$ ii) $6^3 - 6^5$

7. Identify, then correct, any errors in the student work below. Explain how you think the errors occurred.

$$\begin{aligned}
 &3^2 + 2^2 \times 2^4 + (-6)^2 \\
 &= 9 + 4 \times 16 - 36 \\
 &= 13 \times 16 - 36 \\
 &= 172
 \end{aligned}$$

10. Evaluate.

a) $(3 + 4)^2 \times (4 - 6)^3$

b) $(8 \div 2^2 + 1)^3 - 3^5$

c) $4^3 \div [8(6^0 - 2^1)]$

d) $9^2 \div [9 \div (-3)]^2$

e) $(2^2 \times 1^3)^2$

f) $(11^3 + 5^2)^0 + (4^2 - 2^4)$

12. Winona is tiling her 3-m by 3-m kitchen floor. She bought stone tiles at \$70/m². It costs \$60/m² to install the tiles. Winona has a coupon for a 25% discount off the installation cost. This expression represents the cost, in dollars, to tile the floor:
- $$70 \times 3^2 + 60 \times 3^2 \times 0.75$$
- How much does it cost to tile the floor?

16. Use a calculator to evaluate. Write the key strokes you used.

a) $(14 + 10)^2 \times (21 - 28)^3$

b) $(36 \div 2^2 + 11)^3 - 10^5$

c) $\frac{12^3}{36(12^0 - 13^1)}$

d) $\frac{81^2}{9^2 + (-9)^2}$

e) $(14^2 + 6^3)^2$

f) $(11^3 + 25^2)^0 + (27^2 - 33^4)$

18. Robbie, Marcia, and Nick got different answers when they evaluated this expression: $(-6)^2 - 2[(-8) \div 2]^2$
 Robbie's answer was 68, Marcia's answer was 4, and Nick's answer was -68.

- a) Who had the correct answer?
 b) Show and explain how the other two students might have got their answers. Where did they go wrong?

20. Copy each statement. Insert brackets to make each statement true.

a) $10 + 2 \times 3^2 - 2 = 106$

b) $10 + 2 \times 3^2 - 2 = 24$

c) $10 + 2 \times 3^2 - 2 = 84$

d) $10 + 2 \times 3^2 - 2 = 254$

Use any strategies *you* know to evaluate these expressions.

1. a) $\frac{3^2 \times 6^2}{2^2 + 1}$ b) $\frac{3^2 \times 6^2}{2^3 \div 2^2}$ c) $\frac{3^2 + 6^2}{2^2 - 1}$

d) $\frac{3^2 - 6^2}{2^2 - 1}$ e) $\frac{6^2 \div 3^2}{2^2 \div 2}$

2. a) $\frac{3^4 - 2^2}{4^3 + 4^2 - 3^1}$ b) $\frac{4^2(3^4 \div 2^0)}{2^4(3^4 - 2^0)}$ c) $\frac{2^4(4^3 \div 2^2) - 4^0}{3(3^4 + 2^2)}$